



## **10 Best Innovations** (

Are we off to a good start?

By R. Cunningham

he 21st century is only three years old, and already a significant number of innotions have popped up that could forever change our sport. *MBA* decided to show the ten most promising ideas that were born in this new millennium.



April 2008

# The New Century

THE BRAIN SHOCK Mike McAndrews was working at Specialized when he came up with the idea that a weighted valve in the piggyback reservoir could eliminate pedal



bobbing. Specialized asked Bob Fox, the founder and brain trust of Fox Racing Shox, if he could make Mike's dream into a functional reality. It took four years for Bob to develop the inertia-valve shock that Specialized aptly named the "Brain." Inside the Brain's piggyback chamber, a small, spring-loaded brass weight acts as a valve that prevents the shock from moving until the rear tire rolls over a bump. Even the smallest bump will unseat the valve and activate the shock, but forces acting from the top down (pedal thrusts. for instance), cause the weighted valve to

Fox's inertia-valve design permanently eliminates the need for the remote lockout devices that were the must-have trinkets of the 1990s. It sets a standard for stable-platform suspension that has yet to be equaled. That's the good news. The bad news is that Specialized holds the exclusive rights to the Brain shock's piggyback inertia valve, and they don't have any plans to make it available to anyone else. The Brain shock's impact on the future of the sport is thus limited to its influence upon other stable-platform suspension designers-competitors who will be forced to invent a system that will match or best its performance.



Number one: Specialized and Fox Shox teamed up to produce the most powerful weapon against rear-suspension bob. The Brain Shock's inertial valve sets a stable-platform standard that has yet to be matched.

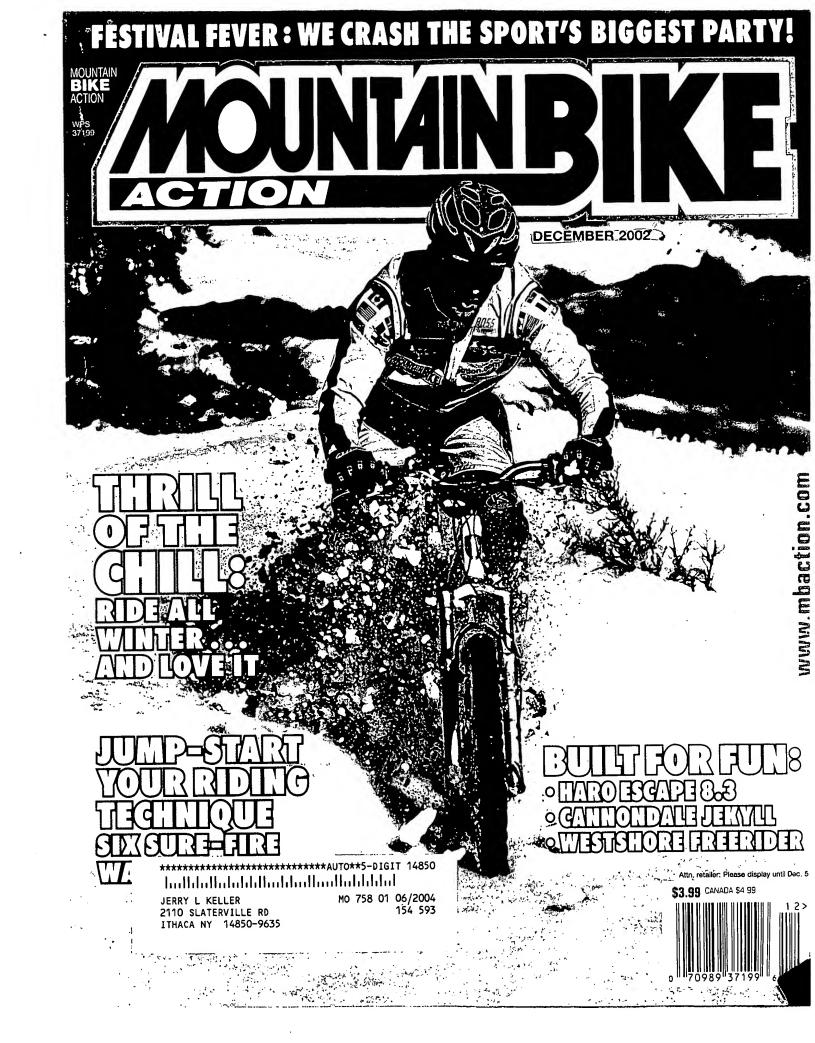


Number two: The salvation of the UST tubeless movement and the first product that made tubeless tires available to the common folk can be had for under thirty bucks. Stan's sealant easily earns the second spot.

STAN'S NOTUBES SEALANT The best-kept secret in the pro cross-country and downhill pits (is hidden inside tubeless tires. The tubeless tire revolution would have been a clost cause if an inquisitive New York State go-cart track operator had been able to locate and purchase a set of Mavic-UST wheels for his cross-country race bike. The frustrated Stan Koziatek set out to devise a method to convert conventional rims and tires into a tubeless system, which we now know as "Stan's NoTubes." The major obstacle Stan faced was sealing the porous tire sidewalls a hurdle he cleared with the help of a hobby shop clerk who suggested a liquid latex product used for masks

and freak makeup.

Stan's fancy fluid earned second place because-it-was-the-missing link that the original UST tubeless system-a-collabbration between Hutchinson, Michelin and Mavic-needed to arrest its fall from grace. Though the UST system offered a number of radical improvements (its rim design assisted the sealing of the tire as it was installed and inflated, tires could be installed and inflated by hand, and they rolled faster and gripped harder than tube-type tires), the difficulty of repairing flats and the tendency for tubeless tires to seep air almost doomed UST to extinction. (Stan's sealing fluid saved the day. It) should be boxed with every tubeless tire-



# happy trails

The last issue of MBA for the year 2002 is a good reason to have a look at the past 12 months. My favorite story is Lelsey Tomlinson's storybook first place finishes: first, with her teammate Gretchen Reeves at the eight-day Transalp marathon race between Italy and Switzerland, then at the 24 Hours of Adrenalin solo worlds in Vernon Canada a month or so later. All hats off to the demure Canadian who has been on her country's national and Olympic teams more times than anyone can remember.

As long as we are talking about racing, two NORBA nationals deserve a round of applause: the well-attended Mt. Snow final, and the first full-program NORBA national in mountain challenged southern Wisconsin were stunning examples of how a little extra elbow grease can turn mediocrity into magnificence. Missy Giove and Eric Carter deserve our sincere thanks for placing this country on the podium at the Worlds against all odds.

What about flyin' Brian? The baron of BMX-style mountain bike venues capped the first year of Four-Cross by claiming every title:
National, World Cup and World
Championships. I think the four-cross should be renamed "the Brian Lopes Downhill Challenge," but if that happens, then the World
Championship downhill should be called "le cup Francais du Nicolas Vouilloz," or at least the "Anne and Nico bowl."

The "innovation of the year award" has to be split between an unlikely pair: Bob Fox and Stan Koziatek. Both managed to solve two of the sport's perpetual sore spots. Bob's four-year quest to perfect the inertial valve compression lockout that is featured on Specialized's Epic rear suspension eliminates the need for lockout levers and other racer-boy band aids. At last, a dual-suspension bike that absorbs shock, and pedals perfectly—without any attention on the part of the rider.

The best kept secret in the cross-country racing game is exactly what was missing from the tubeless tire market. Stan, who founded and owns the garage-sized "NoTubes" company, figured out a simple way to convert almost any tire and rim to tubeless. The conversion saves gobs of money and well over 100 grams per wheel. In his quest to find a method to seal the leaky sidewalls of conventional tires, Stan developed a latex-based sealant that weighs close to nothing and repairs almost any puncture. Put a couple of tablespoons of Stan's sealant in your UST tires and they will hold air, hassle free, until the threads poke through the top of the tread. Stan's system has been in the tires of the world's most elite professional cross-country racers this year. Stan's system is patented, but the buzz from every major bike brand is that they are "working" on a "special" tubeless tire sealant.

The resilience title goes to IMBA, which was slapped in the face by California Senator Barbara Boxer's people. Apparently, Boxer's group feigned a good faith effort to work with IMBA representatives to preserve important mountain bike routes contained within her sweeping wilderness legislation. After IMBA called upon its members to support Boxer, the bill was released without a trace of compromise. The good news (I intend to keep this positive) is that IMBA rallied right back and put together an urban assault team to quench hot spots in urban wild lands where conflicting user groups are blocking mountain bike access.

IMBA's first strike was the San Francisco Bay areas; deep in the heart of Boxer Land—and her staunchest anti-bike supporters.

IMBA also jumped on the freeriding movement to assemble a plan of action to avert user conflicts before the sport mushrooms into its full potential. Intense discussions at its Moab, Utah, annual conference inspired IMBA to outline a method to show land managers how freeriding can take place on public lands without displacing user groups or damaging irreplaceable resources.

The lemons-to-lemonade title goes to Cannondale. Shortly after Volvo, its title team sponsor, announced that it would be pulling out of Cannondale's pro mountain bike team, Anne Caroline showed that there were no hard feelings and handed the Swedish auto maker the World Cup and World Championship titles. Vice President of Cannondale, Scott Montgomery, was optimistic about the news, mentioning that his company had been shifting its focus to festival type venues to reach fresh customers.

Volvo did announce that it would continue to support Cannondale's SoBe team, which reinforces Scott's assumptions, and other sponsors like Mavic, who have decided to concentrate their marketing cash on venues that serve rankand-file mountain bike enthusiasts. Cannondale and Mavic focused on 24-hour racing throughout 2002, and many brands are following their lead. Volvo included a favorable piece on Tinker Juarez's 24-hour racing in the Summer issue of its posh magazine. The shift in focus from elite racing to amateur-based events signals that a blooming of the sport is underway.

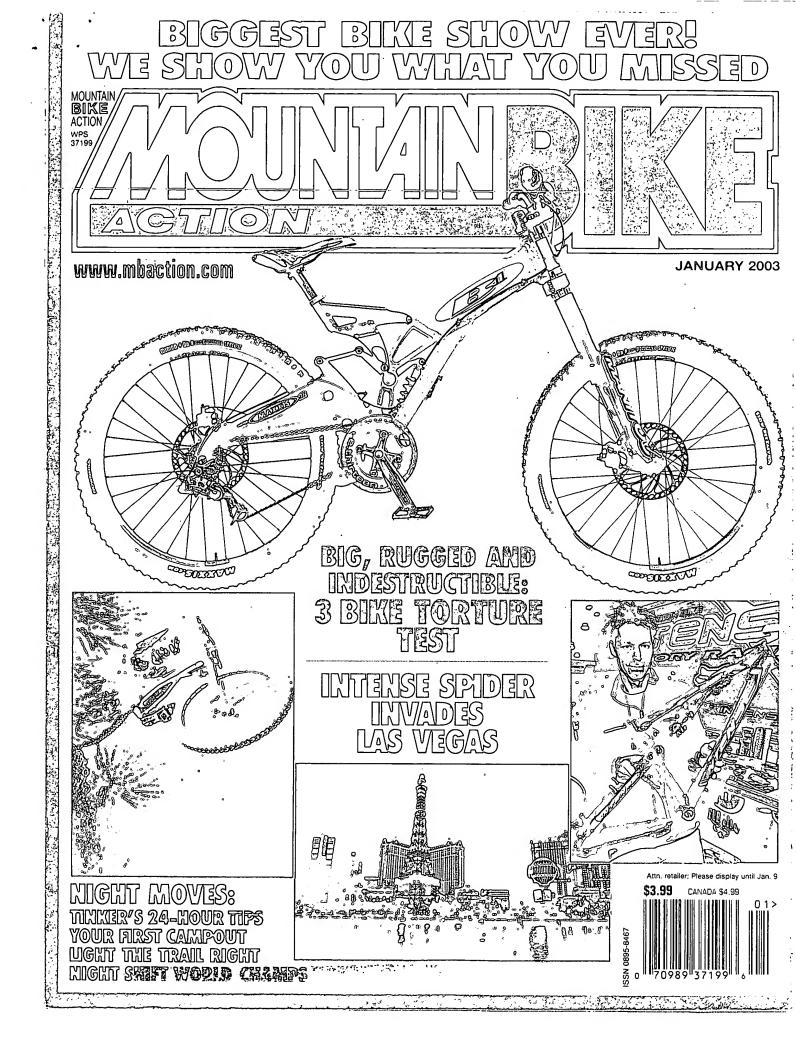
The best place to play has to go to Whistler's mountain bike park with its newly completed freeriding trails. Whistler/Blackcomb was already a mountain biker's must-ride before the stunts went up. The only question is which ski area will be first to throw down the gauntlet? You can bet that MBA will be playing up there come summer 2003.

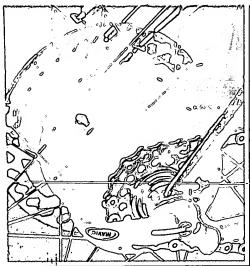


Optimism was almost a disease among bike makers this year. Conservative sales estimates gave big-brand bike companies their first sellout models in a decade. Prices for performance mountain bikes are lower than ever too. \$600 to \$1200 buys an awful lot of mountain bike these days. Better still is the news that mid-sized bike companies are flourishing beyond their wildest expectations. Companies who were once considered blips on the radar are becoming models of capitalism. Intense, Santa Cruz and Ellsworth cannot keep up with demand. Their models are expensive, but in a mature marketplace, buying the right mountain bike appears to be a higher priority than buying the most affordable model. This trend indicates a healthy customer base; one that will support quality and value, but will not tolerate fluff and gimmickry.

What did 2002 add to the up-coming year? Most of all, a sense that we are on a growing cycle. There is optimism, but it's the cautious type. Race promoters may be willing to take " chances on innovative venues. Free riding is maturing into a recognizable culture, and racing is drifting out of the stuffy ranks of a professional occupation and into a more palatable form of sportsman competition. The net result of 2002 on the mountain bike community has been a dispersal of enthusiasts into different expressions of the sport. Cross-country trail riding is still the core of the sport, but there are substantial crossovers who use mountain bikes for dirt jumping, freeriding, shuttling downhills and busting stunts in urban areas.

What 2002 brings to 2003 is the realization that riding a mountain bike is one of life's simple pleasures, and if you can figure out another way to use one, it's icing on the cake. For mountain bikers, this means that we will have more options to enjoy what we love most—riding our bikes. For the industry, it signals the coming of an era when performance improvements and useful innovation will be rewarded. It seems that we have re-established our priorities.





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file: The Superlight has been overshadowed by newer designs, but it is still one of my top five droitess for a dual-suspension XC recer. We tested the bife in our April 2002 issue (you can order a copy by calling 800-737-0345) and we haven't returned it to Santa Gruz yell

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Ric.: Mentels cen suspension looks like the Specialized lipids, and it was readily available in Europe during the 2002 season. The Mentels leaks the Fox inertia shock that is the heart of the Specialized lipids. The reason that the lipids shock is placed on the rear triangle is to gai the inertial valve as dose to the rear exte as possible. Mentels, without using an inertia shock on their bifus, is besienly bending on cool looks.

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is C: The lest magnestum frames I in exerce of (and they were hardfals) went off the market in 2000. See if you can find a discounted 2001. Schwinn Home Grown frame. It is one of the best performing hardfall chassis ever made (customs included).

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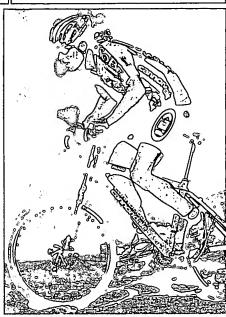
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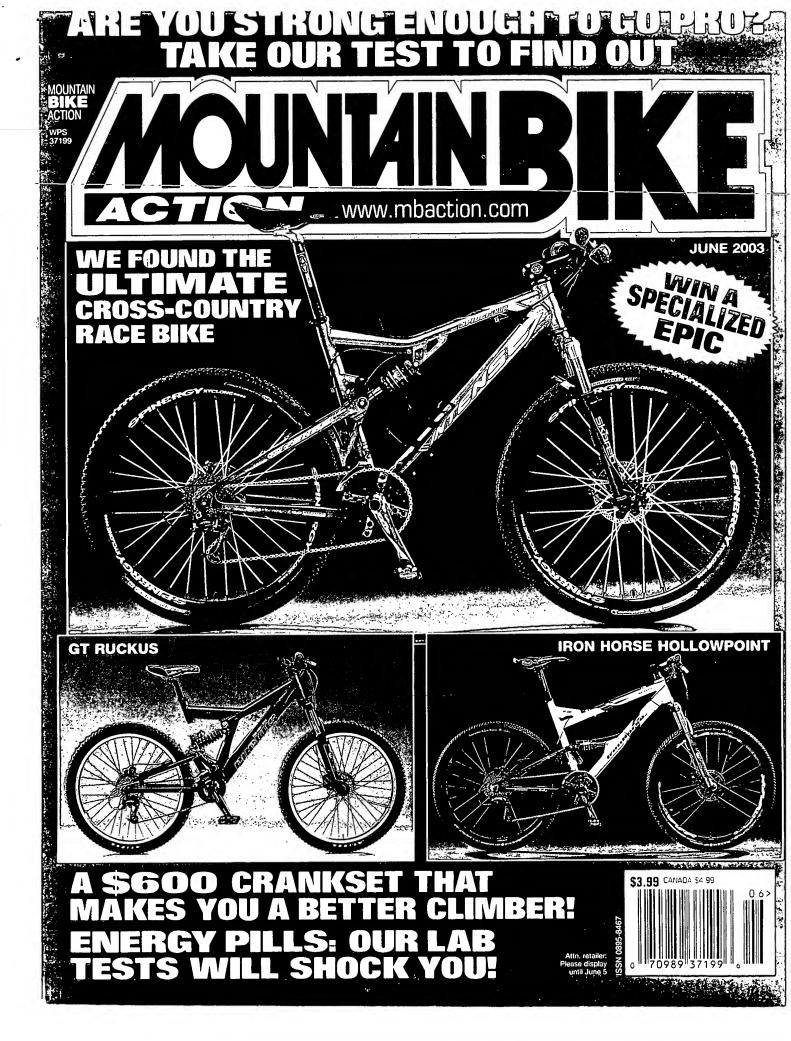
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# ask roe

Got a tough decision about buying a new ride? Can't figure out what is making that creaking noise when you pedal? Not sure if that new carbon fiber bar is the right choice for a freerider-like yourself? Come to the answer man, Mr. Richard "R.C." Cunningham. Surf your way to www.mbaction.com, hit the Ask R.C. link and type in your query. These are our favorite recently-posted Ask R.C. questions and answers!

#### DON'T BLAME THE SHOCK

Q. I've got a Norco VPS-3, and the stock Fox shock on it is starting to creak a little. I was thinking about buying a new shock this year, but I'm wondering what I should be getting. I use my bike for everything, including XC racing, chairlift runs at Fernie, and all-day rides. I've been looking around for info on the Manitou Swinger, the Romic, and the 5th Element, but I think the 5th Element is a bit out of my price range. Have you got a reasonably priced favorite?

R.C.: Shocks make lots of funny noises when they start to go, but creaks are not among them. Put your Norco on the stand and remove the shock. Cycle the suspension to check if the bearings are seized, and to find if the creak is coming from another source. There are permanently lubricated bushings inside the shock eyelets too. Pull the aluminum plugs out from either side of the eyelets and give the bushings a coat of lithium marine grease. If that doesn't solve the creak, search the frame and suspension for tiny cracks. Romic (760-244-4478) makes a reliable replacement shock that will perform perfectly for your all-purpose needs, because it features stable-platform compression valving.

#### STOP BRAKE NOISE

Q. I bought a Specialized Epic Marathon. I got all the manuals except the English version for the Shimano XTR brakes. My back brakes are squealing terribly, and I want to take the pads out and give them a light sanding. I cannot seem to find any manual online or help in this regard. Where should I turn?

R.C.: Dash off to your local motorcycle shop and buy a spray can of brake rotor cleaner. Pop your wheel off and use 220 grit abrasive cloth backed with a smooth block of wood to sand your rotor in small circular motions until the braking surface is dull throughout. Spread the pads apart with a clean flat screwdriver, then spray the pads clean inside the caliper (don't touch them). Next, spray the rotor clean. Reassemble the wheels and break in your rear brake on a steep, paved hill in a succession of hard stops. Most braking squeal is caused by light braking during the initial break-in period (typical XC use).

#### BIG BOY BIG HITTER

Q. I'm 6'8" and weigh 240 pounds. I'm looking for a new frame for freeriding activities. I'd like to run a burly fork as I'm sick of smaller forks bending or breaking under me. I don't ride that hard; it's just my size and weight that tend to do the damage. Can you suggest anything?

R.C.: Get a Rocky Mountain RM-7, a Santa Cruz Bullit, or check out the Titus SuperMoto. Titus makes custom sizes and the Super is a pretty fun bike for burly freeriding.

#### RIMS AND DISCS

Q. If I use a disc hub with a non-disc-specific rim, will I be wrecking any part (spokes, rim or hub) in the long run? I plan to use Mavic X618 rims on XT hubs with DT spokes.

R.C.: Disc-specific rims have no rim braking track and are generally a little more rigid to handle the additional "hoop tension" forces generated by the spokes under braking. A conventional mountain bike rim will work fine. If you do build up your own disc brake wheels, avoid two-cross and radial lacing. Three-cross lacing will line up the spokes to better resist the hub torque when the brake is applied.

#### BROOKLYN DOWNHILLERS

Q. What's the deal with Brooklyn Machine Works bicycles? I'd like to get into downhill racing and I'm saving my pennies. Should I even be looking at these bikes or something else all together?

R.C.: If you race the near-vertical roots and rocks of popular East Coast venues, Brooklyn is a good choice. The short-coupled rear end and pig-heavy chassis that Brooklyn produces is not very competitive elsewhere.

Causing earthquakes: One rider sought out R.C. wisdom because he is sick and tired of bending forks and breaking frames. Who can blame the guy? Richard gave him a short list that included the Santa Cruz Bullit.





Mixing hubs and rims: Bikes like the Cannondale Jekyll come with disc-ready hubs, but will the rims be up to the job? Richard sets the mix-and-match world of brakes and rims straight with simple, yet invaluable, suggestions for a perfect marriage.

#### EXPENSIVE UPGRADE

Q. I have a '99 Rocky Mountain Pipeline and I'm looking to upgrade the shock from the Fox Vanilla R that's on it. I have ridden a few bikes with the Progressive shock and it felt great. Would the progressive take care of most of the typical URT problems my ride has?

R.C.: Pedaling the unified-rear-triangle suspension of your Rocky would be greatly enhanced by adding a stable-platform damper like the Progressive Fifth Element or the Romic Twin Tube shock. Ya gotta wonder, however, if applying the 350 bucks towards a Rocky Mountain RM wouldn't be a better idea.

#### WELCOME TO THE MOUNTAIN

Q. I am just starting to mountain bike seriously. I'm looking at the Norco Atomik and the Kona Stinky and have \$2400 to spend. Both have everything I'm looking for. I am wondering which would be better or if there are any other bikes in that price range I should consider?

R.C.: For \$2400, you can choose from a lot of hardware. The Norco and the Kona are excellent choices. Flip a coin and go ride.

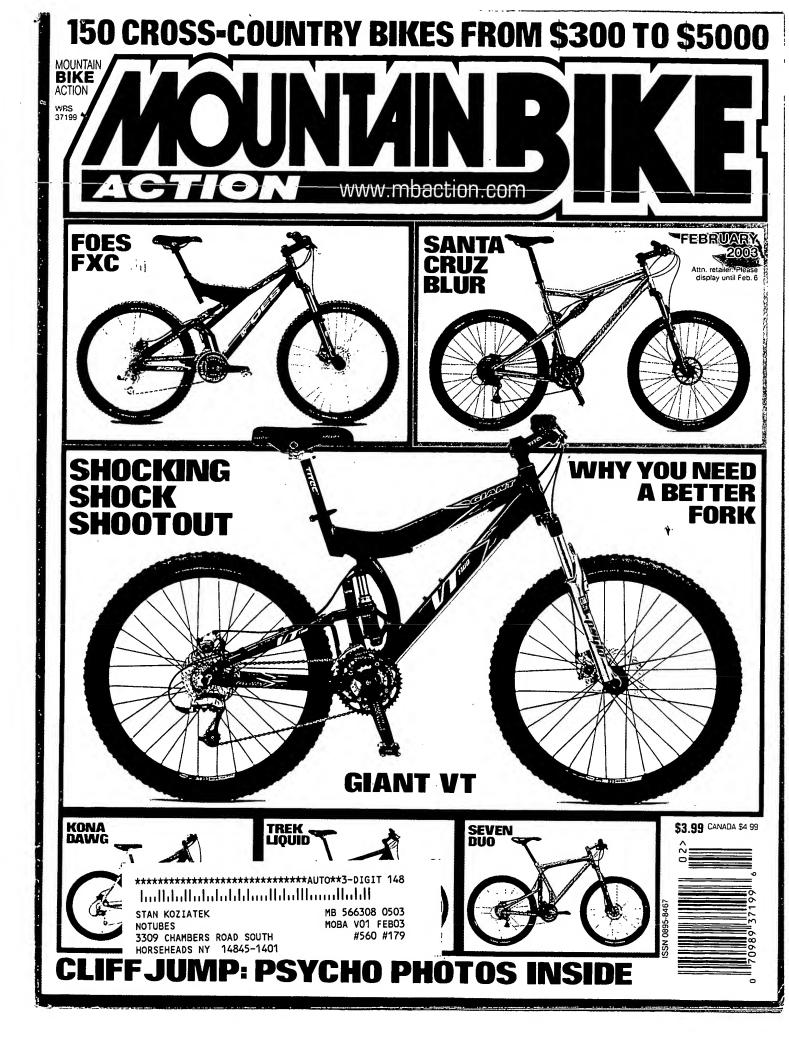
#### **TUBELESS DECISION**

Q. What is better for trail riding and crosscountry racing; tubeless UST wheels or regular wheels and tires using the Stan's NoTubes conversion?

R.C.: For all-around trail riding, UST wheels and UST tires with Stan's sealer are best, because you get a greater level of puncture resistance with the UST tires. For racing, where weight is of paramount importance, use lighterweight conventional wheels and tires converted with Stan's NoTubes system. For racing or trail riding, I prefer to use UST rims and then use Stan's sealant to convert conventional tires to tubeless, because if I do rupture a tire, I can change flats faster without the need to fuss with a rubber liner.

#### CABLES OR FLUID

Q. I'm looking to upgrade to disc brakes. Which are better: hydraulic or mechanical disc brakes?



## askrig

Want a straight answer to your nagging question about a bike upgrade, your riding technique or a maintenance issue? There is no better way to cut through the hype than to log onto www.mbaction.com, click the Ask-R:C-link-(that's-Hall of-Famer-Richard "R:C."-Cunningham) and type in your query. If your question is something that other riders would be interested in, you might see it printed here.

#### **VANILLA SKY**

Q. Are there any upgrades for my Fox Vanilla R shock?

R.C.: Fox Racing Shox has a shock rebuild program. For a price, they can revalve or respring it and update your Vanilla coil-over with a compression clicker. Call them at (800) 369-7469.

#### **NO FREE FALLS**

Q. I have a 2001 Trek Fuel 80 and I was looking to upgrade the fork. I am looking at the RockShox Duke U-turn. I race about 2-3 races a year, but I also do some drops and dirt jumping. Any suggestions?

R.C.: As long as you are not into big-drop hucking, the RockShox Duke would be a good upgrade choice.

#### THE RIGHT SIZE

Q. It's impossible to try a bike before buying it here in France. I want to buy a Specialized FSRxc, but how do I know what size is best for me? I weigh 145.5 pounds and I'm 5'3" tall. Also, what do you think of the Fox TALAS fork?

R.C.: If you ride technical singletrack and want a quick-steering bike, a small frame would be fine. Buy the medium size and use a shorter stem if you need a more stable platform. The Fox TALAS fork is built on the same rigid platform as the coil-sprung Vanilla line. I have a small amount of time on the TALAS, and so far, I am sold on its big-hit, trail bike potential.

#### THE RIGHT PRICE

Q. I am 14 years old and I am going to start cross-country racing. I found a brand new end-of-year production Cannondale F-700. It used to sell for \$1539, but I can get it for \$1050. Is this a good buy, or should I save my money and keep looking?

R.C.: If it's the correct size, go for it.

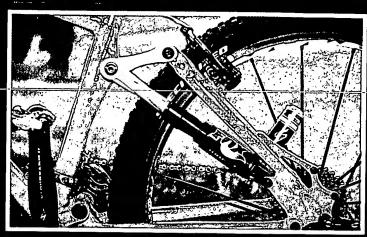
#### EPIC RIDE

Q. What do you think about the new Specialized Epic bicycle? What is good or bad about it?

R.C.: I love the Epic. It is definitely an XC oriented chassis, however, and that is its limitation. Its head angle is steeper than I like (71.5-degrees), and because the Brain shock causes

Coming soon: Our first full test on a production Specialized Epic (not a test of a preprototype) will appear in our March issue. Until then, R.C. shares his insights on the limited Epic saddle time he has

enjoyed.





Super-size it: Isn't there anybody in France who can size a rider to a mountain bike? A French rider came all the way to Valencia, California, to make sure he was getting the right size. Lucky for him, R.C. speaks some French.

the bike to ride high in the rear, so it feels steeper. Another Epic negative is its low bottom bracket. Although the Epic's BB is 1/4 inch higher than the FSR, it still wanks the cranks on relatively small rocks. I would love to get my hands on an Epic for a "two-year test ride." If I did, I'd switch the three-inch-stroke fork with a four-inch version, like a Marzocchi Marathon-S or a Fox Float RLC. The upgrade would slacken the head angle, raise the bottom bracket and make me even happier.

#### **TIRED OF THE TIRES**

Q. I have a Giant NRS. It comes stock with Hutchinson Python UST Tubeless tires. They have been great, but they need replacing. I ride on hard packed trails here

in North Texas, but there are some loose, powdery, and sandy sections as well. Should I stick with a new set of Hutchinsons, or consider others such as Maxxis or Michelins?

R.C.: Continental makes a UST version of the Explorer Pro knobby that is lighter and more aggressive than the Python. If you are adventurous, try converting a pair of Specialized Roll-X tires to tubeless with the assistance of Stan's No-Tube sealer. You can get the Stan's No-Tubes by calling (607) 739-2301.

#### DOWNHILL TRANSFORMER

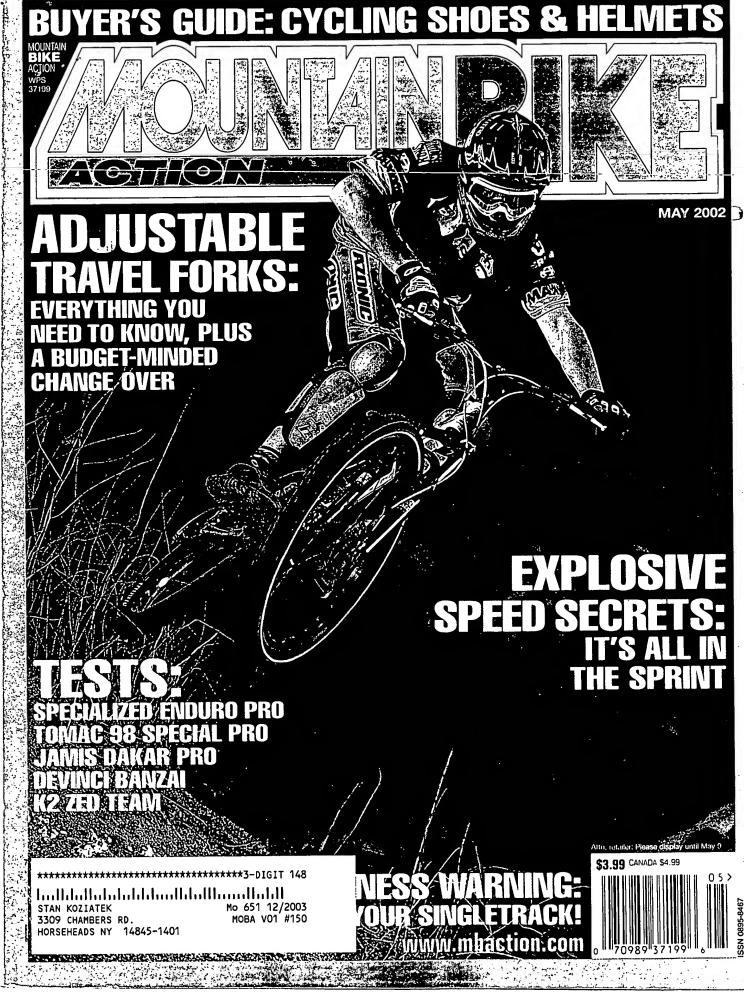
Q. I have a Giant AC 3 and I am currently riding freeride. I would like to get into downhilling by upgrading the bike. Any suggestions?

R.C.: Upgrading your AC to be a competitive downhill rig is not possible. Giant makes a relatively affordable version of their team downhill bike. Sell your AC and buy a real downhill rig. You will be happier for it.

#### **OVERRATED ADJUSTABILITY**

Q. I'm looking at upgrading to full suspension. I like the idea of adjustable travel, yet I'm not sure how important it is. I ride singletrack in Minnesota recreationally, yet I'd like to try racing a couple of times next year. I've been looking at the Trek Fuel 90, Fisher Sugar 3+, Specialized FSRxc and the Specialized Epic. Which would you recommend? Also, to disc or not to disc?

R.C.: Hands down, I'd go for the Epic, but it costs more than the Sugar, which is my second pick. Adjustable travel is highly overrated. You will find that the U-turn feature on the RockShox Psylo and Duke lineup is the best system for forks. The Fox TALAS shock is the only adjustable version I like, and it won't be available until 2003. Many frames have a multitude of shock positions that offer a wide range of travel. Unfortunately, the shock can't handle the leverage ratios at the extremes. One-inch travel adjustments are all you can expect, like



R.C.: You need to call Cove at (604) 929-1918. I believe they will advise you to leave the shock alone.

#### **USE IT-LOSE IT**

Q. I have a \$200 Supercycle and want to know if buying a pair of RockShox Jetts for \$300 would be a good upgrade for my bike? I am also looking into a new rear shock.

R.C.: Don't upgrade anything. Wear out the Supercycle and buy a better bike later.]

#### **EPIC RIDE GUIDE**

Q. I am looking for a bike that I would use for some very long rides on relatively rough terrain (like 350 miles in 3 days). I would like to spend around a grand, but am willing to go up a couple of hundred if I need to. Is it better to get a dual suspension that is around \$1000, such as the Gary Fisher Sugar or the Trek Fuel, or is it better to buy a higher-end hard tail?

R.C.: Get the Sugar and laugh at anyone who is foolish enough to ride epics on a hardtail.

#### NAME THAT TRAIL

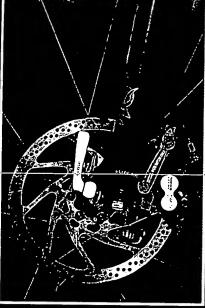
Q. Can you tell me a mountain bike trail in a foreign country?

R.C.: "For Women Only" on Grouse Mountain in North Vancouver. It's an intermediate-level singletrack that you can access via a dirt road. The stunts are a good introduction to the seriously scary stuff that average North Shore riders call singletrack.



In the lead: When it comes to dual-suspension bikes in the \$1000-\$1500 range, the Fisher Sugar is one sweet choice for an all-round epic performer. If you are comparing it to a hardtail, the Fisher simply wheelies away.

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Hit the brakes: Riders with Manitou forks can experience the stopping power of Shimano XT disc brakes, but there is a trick. The XT's need a special bracket to find their rightful place on the fork.

#### **PUTTING ON THE BRAKES**

Q. I want to install Shimano XT disc brakes on a Specialized FSR-XC Comp. Will it require special adapters or will the Shimano calipers bolt directly on the frame and Fox 80RL fork?

R.C.: I believe that the Specialized comes with a Manitou fork. If this is the case, you'll need an adapter for the fork. It has Hayes-type post mounts. The rear brake will bolt right on.

#### **GETTING STARTED**

Q. I've been wanting to get a mountain bike but really don't know much about them. I am 36 years old, 6'5" tall and weigh 250 pounds. Wal-Mart is the closest store that sells mountain bikes. They have 26-inch, 21-speed bikes from \$90 to \$200. I went to get one and just didn't know what to buy. Could you recommend one of the Wal-Mart brands to buy? If you recommend one and it doesn't suit me, no hard feelings. I asked for it!

R.C.: Unfortunately, you are too tall to fit any bicycle that you will find in a big-box store. You need to find an independent bicycle shop. You should be able to buy a used bike from one of them. Bike shops have trouble moving tall frames, so you should be able to negotiate on the price. A bike shop will know how to size you properly. You're going to love mountain biking!

#### THE RIGHT STUFF

Q. I'm considering buying a Klein or Specialized. The only problem is, I don't know what size bike I should get. I'm 5'8" tall and weigh about 157 pounds. Thanks for offering such a great forum!

R.C.: You are the Mister Normal that all medium-sized frames are designed to fit. Buy a bike with a 23-inch top tube and be happy about your gene pool.

#### **GIANT DECISION**

Q. I'm considering a Giant NRS 1. What's your opinion of this bike?

R.C.: The Giant NRS system is designed to cancel out the suspension the instant that you put pressure on the pedals. This feature cancels out rear suspension bob very effectively. NRS limits other aspects of suspension performance, but many Giant-loving cross-country riders wouldn't have it any other way. If you want a good handling bike with an outstanding parts selection, the Giant is a perfect choice.

#### SO MANY GOOD BIKES

Q. I am considering buying a 2002 Trek Fuel 90 with Hayes discs. Are there any other good bikes to look at in the Fuel 90's class?

R.C.: Every top brand has a winner at that price level. If you are searching for a tight and nimble trailbike that feels like a cross-country racer, buy the Trek. If you want a bike for aggressive trail riding, you should shop around for a longer-travel mount.

#### **GOING TUBELESS**

Q. What do you think about the new tubeless rims that Mavic introduced this year? Are they better than the Crossmax? Actually, I am still not sure whether I should plunge into the tubeless crowd or not. I ride mostly cross-country with my Specialized Stumpjumper FSRxc.

R.C.: I am still sold on tubeless, but if you go that route, you will be participating in a part of mountain biking that is still evolving. The Mavic UST rim you are talking about is worthy. UST is the best form of tubeless. If you go tubeless, dial up Stan's No-Tube (607-739-2301) and buy some of his sealant. It is lightweight and will seal the sidewalls of UST tires.

#### TRAVEL AGENT

Q. Can I get more travel out of my Santa Cruz Super 8 by putting on a different shock?

R.C.: Not really. In the case of the Super 8, and nearly every other suspension design, adding a longer shock usually alters the rate of the suspension. You will be better off tuning the spring and damping of your 8-inch suspension. If you wait for Progressive Suspension to dial in the Fifth Element shock, that should be an incredible improvement. Ask Santa Cruz about it. They are participating in the development of the shock.

Baffled by your Bomber? Mixed-up about Manitous? Researching those RST's? Stumped by a RockShox riddle? Get your fork queries (and any other mountain bike related questions) answered by visiting our site at www.mbaction.com, clicking on the Ask R.C. link and typing in your question. Richard Cunningham (that's R.C.) will post an answer that others are unable (or afraid) to give.

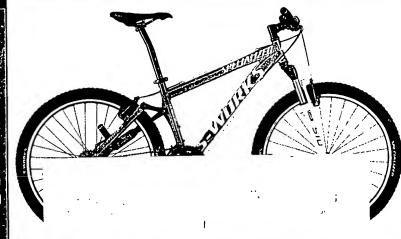
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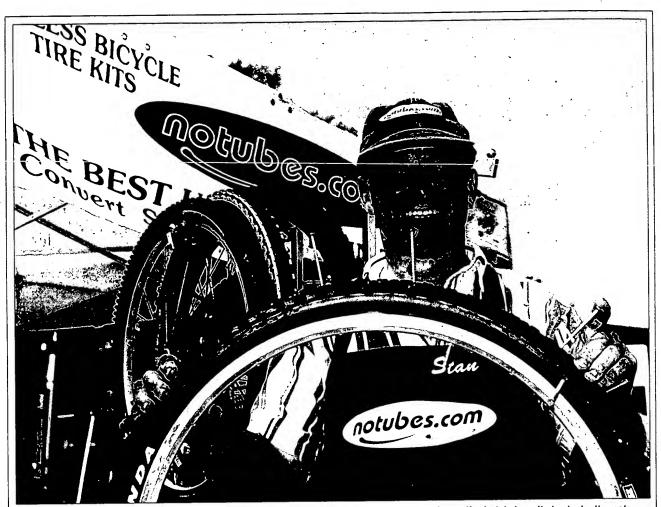
CHUMBA WUMBA F4





\$3.99 CANADA \$4.99





Magic brew: NoTubes' Stan Kozlatek has made flatting fun. The NoTubes sealant not only converts any tire to tubeless, it also instantly seals punctures and small rips. Most pro riders are running the Stan's sealant.

### Flat Tires

The idea here is that thicker tubes are more resistant to pinch and puncture flatting. MBA has tested all types of tubes, and has found no puncture or pinch-flat difference among lighter tubes. However, when you get into the heavy duty range, a thorn proof tube is very puncture and pinch-flat resistant. The thicker tubes only cost a few dollars more.

For the freeride and downhill crowd there are two tubes:

1. Heavy duty 26x2.35/2.75—1.2mm thick rubber; 380g.

2. Downhill 26x2.4/2.75—2.25mm thick rubber; 678q.

Always run a tube that is sized for the tire. If you run a light, 1.5/1.75-inch tube in a 2.1-inch tire, the toosmall tube will eventually develop a small slit along an extrusion line. Then you go flat.

Also avoid using lightweight latex tubes, as they easily split down the side.

NUMBER EIGHT: RUN AN INSERT

By lining the inside of the tire underneath the tread area with a protective strip, you can virtually eliminate the chance of puncturing. Some inserts can also reduce your chances of pinch flatting (depending on how the insert interfaces with the tire and how it affects sidewall compression). Plastic tire inserts run around \$18 a pair and add 127 grams to each tire. If you're looking for the ultimate insert, Kenda's six layer Kevlar liner could stop a .44 magnum bullet. Kno Flatsss [(614) 866-9803] sell for \$39.99 and add 384 grams to the weight of the tire.

#### NUMBER NINE: BUY A TOUGHER TIRE

This is really a case of buying the right tire for the job. Larger volume tires with aggressive tread are more flat resistant and should be used in rocky, thorn-filled terrain.

There are a host of tires with heavier casing material, sidewall stiffeners and thicker tread rubber, but don't just rely on the manufacturer's claimed protection. Go to the dealer and make sure you can feel the difference on the tire you're buying. Of course, a tire can weigh more because it has the tread and casing protection you want, or it can weigh more due to a wire bead and

cheap construction material. On a quality, heavy-duty tire, you will feel the extra tread rubber, sidewall stiffener and cap ply when you flex the material.

NUMBER TEN:

Nothing is more-flat-resistant than a NoTubes-tubeless-converted tire-or a tubeless tire with NoTubes sealant, (607) 739-2301. NoTubes sealant is nothing like the puncture sealant sold by-the-other manufacturers-It-plugs up to-1/4-inch-punctures and small slits faster-and more permanently than any other sealant on the market. The complete tubeless-conversion also weighs less than even the lightest tube system. Downhill and XC riders can buy a \$57 conversion kit that will turn two standard wheels and eight tires to tubeless. Most XC guys will drop tire pressure at least 5 p.s.i. and as much as 25 p.s.i. with the NoTubes conversion. Downhill riders will often increase tire pressure 10 to 15 p.s.i. Since the tire gives better traction without the tube, DH riders can run more pressure to guard against pinch flats-without a loss of traction.





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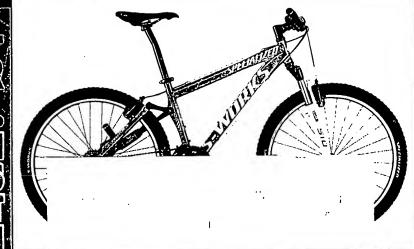
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# e The Pros' B

Tinker's 100-miler

Fizik Plateau saddle, custom made especially for Tinker ("It's softer with more padding.") inker Juarez is the master of the long-race format. A threetime cross-country national champion, two-time 24-hour national champion, and now the first Epic 100-mile national

Mavic CrossMax SL Bisc Tubeless rear wheel

champion, Tinker has proven that if the race is long and difficult, he'll go the distance and do it faster than anybody else.

Tinker avoids new technology like the plague. Until he knows he can trust something, he doesn't want to have anything to do with it. That said, when Tinker does find something that works, he embraces it wholeheartedly. There may be a few examples of cutting-edge innovation on his bike, but most of the stuff he uses is as tried and true as the color blue. Here's how Tinker set up his bike to win his first 100-mile national championship. 🗀

Bike weight: "23 pounds, at most, and I could get it down half a pound if I wanted."

Fox Float RL rear shock .

でなるないのうというとは Shimano XT front derailleur

Cannondale Scalpel, medium-size aluminum frame, custom made for Tinker with a shorter top tube

Easton CT2 carbon-fiber

seatpost

Shimano XTR rear derailleur

Hutchinson Mosquito tubeless tires, treated with Stan's NoTubes Sealant to prevent flats . .

narch 2003

www.mbaction.com MAY 2003





STAN KOZIATEK NOTUBES 3309 CHAMBERS ROAD SOUTH HORSEHEADS NY 14845-1401 MB 566308 0503 MOBA VO1 #166



## **Built For Speed**

#### MBA's newest test sled

Thomson 31.6 diameter by 287mm long seatpost.

73TIOCA

here's no way for the wrecking crew to test every product made, but we try our best. To keep our test results consistent and accurate, we added a number of Test Sleds to our bike fleet for the sole purpose of evaluating products. The results have been better than we expected.

What is a Test Sled? Most MBA test bikes are returned to the bike companies 90 days after the moment we first get to click our cleats into their pedals. The Test Sleds, however, are kept for an extended period, sometimes stretching up to two years. In the past, we've utilized cross-country, dual-slalom and downhill Test Sleds from Santa Cruz, Specialized, Foes and Giant. These Test Sleds have been an invaluable tool for evaluating the many products you see in Thumbnail Trash Tests every month and features like the product test extravaganza from our April 2003 issue.

As the 2003 NORBA NCS season is about to take off, we've built another Test Sled, this time designed for Mountaincross and dirt jumping. Throughout the year, be sure to have your eyes peeled, as this project bike will be making frequent appearances in the pages of MBA, donning the latest and greatest components. Come with us behind the scenes for an insider's look at how we built up our 2003 Intense Tazer. Look for this little hot rod to make its debut at the Sea Otter Classic.

Tioga Mutti Control 2, "Nicolas Vouilloz Edition" w/Ti-rails.

Stan's Notubes premixed tubeless tire sealant.

Intense 2.35 DH and 2.4 Zero Sticky Rubber tires.

> Mr. Dirt Gizmo slalom chainguide. Contact: (714) 543-0362.

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Profile 170mm cranks w/Ti-spindle, and Profile 38-tooth chainring. Contact: (727) 391-7370.

Shimano XT shifter, derailleur and Super Narrow HG nine-speed chain. Contact: (949) 951-5003.

Tioga ACC sealed headset. Contact: (888) 468-4642. Answer ProTaper two-inch rise bars. Contact: (661) 257-4411. OOI Ruffian lock-on grips. Contact: (909) 786-4755. Thomson 50mm stem. Contact: (478) 788-5052. Azonic Head Lock MTB. Contact: (800) 326-6325. Mavic Deemax UST tubeless wheelset. Call (888) 466-2842. Small Intense Tazer FS frame, with Fox Vanilla R 3.5-4.5-inch travel shock. Contact: (909) 296-9596. Manitou Black Super Air fork, 100-120mm of travel. Contact: (661) 257-4411. Hayes Hydraulic disc brakes. Contact: (888) 686-3472. Stan's Notubes air-craft aluminum disc brake rotors. Contact: (607) 739-2301.



#### WHAT'S UP AT MOOTS CYCLES?

"We're still in Steamboat Springs, Colorado," says Jon C, "and we're coming up on our one-year anniversary at our new 15,000 square-foot building. It has two employee apartments and one guest apartment. Since we are in such an exclusive ski town, we need a place to keep our workers and visitors. There's a great show floor with all of our new models on display. Our numbers are up, and we have new employees. There are 14 of us working full time, we have two CNC machines and make everything in-house. I guess you can say that we're controlling our own fate as much as possible. It's a bad day when we don't get out to ride, and those who don't live here always commute by bike."

Moot point: While some companies want to rule the world, Moots Cycles is pumped to be increasing sales and not missing any opportunities to ride. Located in Steamboat Springs, Colorado, the Moots crew is close to many biking meccas.



WHAT'S UP AT MOUNTAIN CYCLE?



"Thank you for giving us the opportunity to get this information into Mountain Bike Action!" says Sales Manager Rob Lindberg. "Our big news really started late last year when we were able to form an outstanding relationship with Kinesis USA, the frame maker up here in Portland. The manufacturing equipment and company assets were moved up to Portland in late 2001. Robert Reisinger, the founder and now general manager of Mountain Cycle, and myself (sales and marketing) moved up here in January. We then hired our new engineer, Dylan Howes. Dylan was a lucky find and is a great addition to the Mountain Cycle team. He has obtained aerospace industry experience while working on satellites for Loral. His most recent bike industry experience was working for Bell Sports in Santa Cruz, California. And perhaps most importantly, he's a good rider and loves to ride mountain, BMX and road! He has really added a lot to the team here and is incredible with our CAD software, Solid-Works. We have also hired John Boelsems in our sales department. He has worked in many parts of the industry, including manufacturing, and brings years of mountain, road and BMX experience to the table.

"The Mountain Cycle/Kinesis USA team is on the verge of moving into a new home. We expect to be able to make the move. by InterBike and are very excited! The new building is approximately three times larger (34,000 square feet) than our current setup and is just across the river in north Portland. The new facility will have roughly three times the current office space and is much needed. More importantly, the increased production? facilities will substantially increase our ability to produce and keep high levels of stocked color framesets available and ultimately give us some of the shortest lead times in the industry for orders both small and large.

"Now for the good stuff! A new addition to the Shockwave line: of frames, the Shockwave NinePointFive is our dedicated DH frame. It has 9.5 inches of travel and monocoque construction of the main frame and swingarm for the legendary Mountain Cycle ride. Sealed cartridge bearings are used throughout. It's available with optional dropouts, along with adjustable steerer stop for use with triple-clamp forks. The cantilever-beam design includes a shock stroke manipulating link to give a real progressive stroke for those big hits and drops. A Progressive 5th Element shock is

"Our new cross-country frame is strong, light, and gives four inches of sealed-bearing-smooth travel. We break off a bit from our monocoque heritage here and use a tubular frame. However, it does have monocoque wraps in the head tube and seat tube for strength and stiffness."

#### WHAT'S UP AT NOTUBES?

"So many racers and manufactures are calling me up," exclaims Stan Koziatek, "I hardly have time to ride anymore. It's a miracle if I get to go out once a week. The entire Cannondale Team-Tinker Juarez, Christoph Sauser, and Kashi Leuchs-is running my aluminum rotors, Ti pedal spindles and Notubes tire sealant. Dave Wiens from RLX Polo just bought ten gallons of the sealant. He's running it on the team bikes, and Jimena Florit has won two Nationals so far this year with my sealant. World Champ Alison Dunlap is also using the Notubes sealant. She punctured at the Grouse Mountain World, Cup. The sealant fixed the leak and she was still able to win."

Stan is also selling a lot of product. There are a lot more elite, World Cup and NORBA National cross-country riders who are using the system than you would think, "Even if the riders are using UST rims (due to sponsorship agreements) they are running lighter, standard tires and converting them to tubeless with my sealant," continues Stan. "Some of the Pros were running insanely-low, in the 20-psi-range, pressures. They then found that the tires weren't staying seated well and holding air. I've developed a rim strip to use on UST rims that allows the rider to run low pressure without the chance of leaking air at the bead area of UST or converted tires.







